IN THE CLAIMS:

Please amend the claims as follows:

Cancel claims 1 to 27 and substitute therefor the following new claims:

28. An isolated nucleic acid sequence selected from:

(i) the nucleic acid sequence depicted in any one of SEQ ID NO: 1 to SEQ ID NO: 11;

(ii) nucleic acid sequences having at least 70% identity with the sequence of any one of SEQ ID NO:1 to SEQ ID NO:11;

(iii) fragments of (i) or (ii) of at least 20 nucleotides.

29. A nucleic acid sequence according to Claim 28, having at least 80% identity with the sequence of any one of SEQ ID NO: 1 to SEQ ID NO: 11.

30. A nucleic acid sequence according to Claim 29, having at least 90% identity with the sequence of any one of SEQ ID NO: 1 to SEQ ID NO: 11.

31. A nucleic acid sequence according to Claim 30, having at least 95% identity with the sequence of any one of SEQ ID NO: 1 to SEQ ID NO: 11.

32. An isolated nucleic acid sequence complementary to the nucleic acid sequence of Claim 28.

33. An amino acid sequence selected from the group consisting of:

(i) an amino acid sequence coded by the isolated nucleic acid sequence defined under (i) in Claim 28;

(ii) fragments of the amino acid sequence of (i) of at least 10 amino acids;

(iii) analogues of the amino acid sequences of (i) in which one or more amino acids has been added, deleted, replaced or chemically modified without substantially altering the biological activity of the parent amino acid sequence.

34. An amino acid sequence having the sequence of any one of SEQ ID NO: 12 to SEQ ID NO: 22.

35. An isolated nucleic acid sequence coding for the amino acid sequence of Claim 34.

36. A purified antibody which binds specifically to the amino acid sequence of Claim 34.

37. An expression vector comprising the nucleic acid sequences of Claim 28 and a control element for the expression of the nucleic acid sequence in a suitable host.

38. An expression vector comprising the nucleic acid sequences of Claim 35, and a control element for the expression of the nucleic acid sequence in a suitable host.

39. An expression vector comprising the nucleic acid sequence of Claim 32, and control elements for the expression of the nucleic acid sequence in a suitable host.

40. A host cell transfected by the expression vector of Claim 37, 38 or 39.

41. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and, as an active ingredient, the expression vector of Claim 37 or 38.

42. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and, as an active ingredient, the amino acid sequence of Claim 33 or 34.

43. A pharmaceutical composition comprising a pharmaceutically acceptable carrier as an active ingredient the nucleic acid sequence of Claim 32.

44. A pharmaceutical composition comprising a pharmaceutically acceptable carrier as an active ingredient the expression vector of Claim 40.

45. A pharmaceutical composition comprising a pharmaceutically acceptable carrier as an active ingredient a purified antibody of which binds specifically to the amino acid sequence of Claim 34.

46. A method for treating a disease selected from: diseases manifested in non-normal bone formation and non-normal bone modeling; bone injuries; diseases involved with the female reproductive tract; diseases of disorders involved with abnormal sexual differentiation; recurrent miscarriages, tumors of the uterus, breast or prostate; diseases involving sexual hormone abnormalities; cardiovascular disorders; neuronal diseases of the CNS; neuro-degenerative diseases and diseases involving non-normal developments of neurons; the method comprising administering to a subject in need an active ingredient being an expression vector comprising a nucleic acid sequence according to Claim 28 or 35 and a control element for the expression of the nucleic acid sequence in a suitable host.

47. A method for treating a disease selected from: diseases manifested in non-normal bone formation and non-normal bone modeling; bone injuries; diseases involved with the female reproductive tract; diseases of disorders involved with abnormal sexual differentiation; recurrent miscarriages, tumors of the uterus, breast or prostate; diseases involving sexual hormone abnormalities; cardiovascular disorders; neuronal diseases of the CNS; neuro-degenerative diseases and diseases involving non-normal developments of neurons; the method comprising administering to a subject in need an active ingredient being the amino acid sequence of Claim 33 or 34.

48. A method for treating a disease selected from: diseases manifested in non-normal bone formation and non-normal bone modeling; bone injuries; diseases involved with the female reproductive tract; diseases of disorders involved with abnormal sexual differentiation; recurrent miscarriages, tumors of the uterus, breast or prostate; diseases involving sexual hormone abnormalities; cardiovascular disorders; neuronal diseases of the CNS; neuro-degenerative diseases and diseases involving non-normal developments of neurons; the method comprising administering to a subject in need an active ingredient being the nucleic acid sequence of Claim 32.

49. A method for treating a disease selected from: diseases manifested in non-normal bone formation and non-normal bone modeling; bone injuries; diseases involved with the female reproductive tract; diseases of disorders involved with abnormal sexual differentiation; recurrent miscarriages, tumors of the uterus, breast or prostate; diseases involving sexual hormone abnormalities; cardiovascular disorders; neuronal diseases of the CNS; neuro-degenerative diseases and diseases involving non-normal developments of neurons; the method comprising administering to a subject in need an active ingredient being an expression vector comprising a nucleic acid

sequence according to Claim 32 and a control element for the expression of the nucleic acid sequence in a suitable host.

50. A method for treating a disease selected from: diseases manifested in non-normal bone formation and non-normal bone modeling; bone injuries; diseases involved with the female reproductive tract; diseases of disorders involved with abnormal sexual differentiation; recurrent miscarriages, tumors of the uterus, breast or prostate; diseases involving sexual hormone abnormalities; cardiovascular disorders; neuronal diseases of the CNS; neuro-degenerative diseases and diseases involving non-normal developments of neurons; the method comprising administering to a subject in need an active ingredient being a purified antibody which binds specifically to the amino acid sequence of Claim 34.

51. A method for detecting an CLH nucleic acid sequence in a biological sample, comprising the steps of:

(a) hybridizing to nucleic acid material of said biological sample a nucleic acid sequence of Claim 28 or a nucleic acid sequence complementary thereto; and

(b) detecting said hybridization complex;

wherein the presence of said hybridization complex correlates with the presence of an CLH nucleic acid sequence in the said biological sample.

52. A method according to Claim 51, wherein the nucleic acid material of said biological sample are mRNA transcripts.

53. A method according to Claim 51, where the nucleic acid sequence is present in a nucleic acid chip.

54. A method for detecting CLH-product in a biological sample, comprising the steps of:

(One) contacting said biological sample with a purified antibody which binds specifically to the amino acid sequence of Claim 34 to form an antibody-antigen complex;

(Two) detecting said antibody-antigen complex

wherein the presence of said antibody-antigen complex correlates with the presence of CLH product in said biological sample.

55. A method for detecting anti-CLH antibodies in a biological sample comprising the steps of:

(a) contacting said biological sample with an amino acid sequence of Claim 33 or 34, thereby forming an antibody-antigen complex; and

(b) detecting said antibody-antigen complex

wherein the presence of said antibody-antigen complex correlates with the presence of anti-CLH antibody in said biological sample.--